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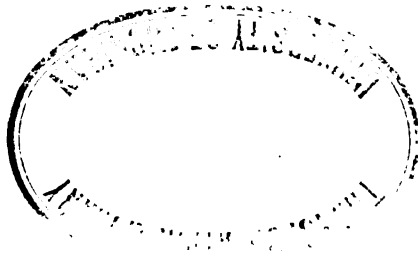


# THE INDUSTRIAL ARTS INDEX

SECOND ANNUAL CUMULATION

SUBJECT INDEX TO A SELECTED LIST OF  
ENGINEERING AND TRADE PERIODICALS  
FOR 1914

EDITED BY  
MARION E. POTTER AND LOUISE D. TEICH



THE H. W. WILSON COMPANY  
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# Industrial Arts Index

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This issue of the *Industrial Arts Index* is the annual number for 1914. The best service to our subscribers required that this number be issued in December, altho the early date prevented the including of most of the December magazines. Those that were received prior to December 3 are here indexed.

## Technical Journals

At a convention of the Federation of Trade Press Associations, held in Chicago last September, John W. Alvord, consulting engineer of Chicago, submitted an interesting paper on the use of the technical journal. It is not necessary to dwell on the portion of his paper that speaks of the value of the trade paper. No wide-awake engineer need be told to read the best periodicals of his profession. The problem that the wisest engineers seem unable to solve is how to make their reading, or the really valuable part of it, available for future reference.

Mr. Alvord suggests that several courses are open. "First, the engineer may rely on his memory and the published index to his bound volumes. It is safe to say, however, that few engineers really make much practical use of this method. The intervening index and the bother of a search prove to be discouraging to that degree that a proposed reference search is abandoned in about one-half the suggested attempts. The ideal filing system is one in which, with the least amount of effort, one can put his hand immediately and accurately on the thing itself, be it a book, pamphlet, or a data sheet.

"Second, he may keep a special card index of important data and reference to valuable articles. This at once involves labor and attention which few busy men can give, and which, if done by assistants or librarians, largely loses its personal value to the one who needs it. The same objection as to the discouraging effect of intervening indexes holds good here, too, and it is further safe to say that of all the contrivances for indexing the most difficult to handle readily and examine rapidly is the card index system.

"Third, he may abstract important data in a limited way on loose-leaf transparent paper, standard letter-size, and he may remove or detach articles of special value from out his journals, to be filed in regular office file system, like correspondence.

"The writer has tried all of the above methods at considerable cost in time and patience, and has, for many years, settled upon the third method. With all its admitted limitations it seems to be the best for an office which is expected to find out information on a great variety of subjects in a limited time, and with the least amount of effort."

Mr. Alvord admits that all three courses are costly in time and patience, and in the end unsatisfactory. And yet it is certainly a greater waste to spend money on a file of magazines that contain much valuable material, and to spend time in reading them, and yet have all this material absolutely unavailable when it is particularly needed. A printed index to these magazines is without question the most convenient and economical way of making this literature accessible. It takes up much less space, and is far more readily consulted than other indexes. An index like the *Industrial Arts Index* contains, moreover, references to many more periodicals than would be found in the private collection of any one engineer. This additional material may be obtained at a public library, or purchased at small cost. It is true that an index covering all kinds of engineering cannot be made to satisfy completely each particular specialist, but users of the *Index* may help to make it more nearly what they want it to be if they will make known to the publishers their particular needs.

As to the comparative cost of making a card catalog and buying a printed index, the printed list is so much cheaper that one wonders how the card catalog survives at all. It is estimated that the cost of cataloging books in libraries is about 15 cents for a single card, or about \$150 a thousand. The entries in the *Industrial Arts Index* cost the subscriber about 70 cents a thousand. There might, of course, be some co-operative arrangement by which cards should be printed for a group of libraries—a service similar to that furnished by the Library of Congress. But this would also be expensive. Even with the

## NOTES AND ANNOUNCEMENTS

large subscription list of the Library of Congress, the cards cost the subscribers from \$12 to \$20 a thousand cards. Moreover, this is only the initial expense, since the writing of the subject headings on the cards and alphabetizing and storing them adds materially to the cost. This expense might be justified if the card catalog were the best way of making information available, but, as Mr. Alvord says, the card index system, of all the contrivances for indexing, is the most difficult to handle readily and examine rapidly.

### Trade Journal Standards

The engineering periodicals frequently contain articles on standardization. Even advertising catalogs have not escaped the demand for standardizing. The periodicals themselves alone seem exempt from any law of uniformity. Yet the trade paper is a valuable tool, and nothing that may increase its usefulness is unimportant. The valuable contents of *The Engineer*, for instance, would be much more valuable if it were printed in a more convenient size and on less crumple paper. The subscribers of the *Engineering Record* would no doubt continue to send in their subscriptions if it were a double-elephant folio, but if they were required to vote on the matter it is safe to say that the quarto or octavo size would win an easy victory.

A reader frequently desires to consult a table of contents. In many instances this requires a search thru the whole magazine, so that the table utterly fails of its purpose. Most readers would much rather have no table of contents at all, than have it provok-

ingly hidden between advertising pages or in the middle of the magazine. A book that had its table of contents elsewhere than in the front would be considered very cheap and amateurish in its make-up. What would one think of a shop manager who should make a key in order to open the door to a shorter route and then hide the key without unlocking it. Better far take the longer route in the first place. The things that are made for a useful purpose, that are capable of serving that purpose and then "won't work," are always the most execrable.

No less exasperating is a search through a large magazine to find who publishes it, how often it is published and the price. This information should without question be on the very first page of reading matter. Uniformity of paging is also much to be desired. Some publishers of periodicals page each number separately, thereby confessing that they do not consider their work worth preserving in a cover as an annual volume. One magazine indexed in the *Industrial Arts Index*, the *Textile World*, pages each number separately and in addition gives the volume paging in the inside edge, where it escapes notice unless the magazine is opened completely. Perhaps it is better that this double pagination should escape notice as it is certainly confusing.

There is undoubtedly a best way of making up a magazine, and in these days of "efficiency," the best way ought to be found and followed. But better a second best system with uniformity than a variety of confusing practices, wasteful of both the time and the patience of the reader.

# List of Periodicals Indexed

- Am Chem Soc J**—Journal of the American Chemical Society. \$6. Charles L. Parsons, sec., Box 505, Washington, D. C.
- Am Eng**—American Engineer. See Ry Age (Mech ed).
- Am For**—American Forestry. \$2; single numbers 20c. American Forestry Assn., 1410 H St, N. W., Washington, D. C.
- Am Gas Light J**—American Gas Light Journal. \$3; single numbers 10c. American Gas Light Journal, 42 Pine St, New York.
- Am Ind**—American Industries. \$1; single numbers 10c. National Manufacturers Co., 30 Church St, New York.
- Am Inst Arch J**—Journal of the American Institute of Architects. \$5; single numbers 50c. American Institute of Architects, The Octagon, Washington, D. C.
- Am Inst E E Pro**—American Institute of Electrical Engineers. Proceedings. \$10; single numbers \$1. F. L. Hutchinson, sec., 33 W 39th St, New York.
- Am Inst Min E Bul**—Bulletin of the American Institute of Mining Engineers. subs. \$10; single numbers \$1; to members, public libraries, and educational institutions, \$5; single numbers 50c. B. Stoughton, sec., 29 W 39th St, New York.
- Am Soc M E J**—Journal of the American Society of Mechanical Engineers. \$3; single numbers 35c. American Society of Mechanical Engineers, 29 W 39th St, New York.
- Am Water Works Assn J**—Journal of the American Water Works Association. American Water Works Assn., 2419 Greenmount Av, Baltimore, Md.
- Arch & Bldg**—Architecture and Building. \$2; single numbers 20c. William T. Comstock Co., 23 Warren St, New York.
- Arch Rec**—Architectural Record. \$3; single numbers 35c. Architectural Record Co., 115 W 40th St, New York.
- Assn Eng Soc J**—Journal of the Association of Engineering Societies. \$3; single numbers 30c. Association of Engineering Societies, J. W. Peters, sec., 3817 Olive St, St. Louis, Mo.
- Automobile**—Automobile. \$3; single numbers 10c. Class Journal Co., 231 W 39th St, New York.
- Bldg Age**—Building Age. \$2; single numbers 20c. David Williams Co., 239 W 39th St, New York.
- Brickb**—Brickbuilder. \$5; single numbers 50c. Rogers & Manson Co., 85 Water St, Boston.
- Colliery**—Colliery Engineer. \$2; single numbers 25c. International Textbook Co., Scranton, Pa.
- Concrete Cem**—Concrete-Cement Age. \$1.50; single numbers 15c. Concrete-Cement Age Pub. Co., 97 West Fort St, Detroit, Mich.
- Dom Eng**—Domestic Engineering. \$2; single numbers 10c. Domestic Engineering Co., 445-447 Plymouth Court, Chicago.
- Econ Geol**—Economic Geology. \$3; single numbers 50c. Economic Geology Pub. Co., 41 North Queen St, Lancaster, Pa.
- Elec Ry J**—Electric Railway Journal. \$3; single numbers 10c. McGraw Pub. Co., 239 W 39th St, New York.
- Elec R & W Elec'n**—Electrical Review and Western Electrician. \$3; single numbers 10c. Electrical Review Pub. Co., 608 S Dearborn St, Chicago.
- Elec W**—Electrical World. \$3; single numbers 10c. McGraw Pub. Co., 239 W 39th St, New York.
- Engineer**—Engineer. Thick paper ed £2 6d; Canadian subs £1 16s; thin paper ed £1 16s; Canadian subs £1 11s 6d. Engineer, 33 Norfolk St, Strand, London, W. C.
- Eng & Contr**—Engineering and Contracting. \$2. Myron C. Clark Pub. Co., 608 S Dearborn St, Chicago.
- Eng & Min J**—Engineering and Mining Journal. \$5; single numbers 15c. Hill Pub. Co., 10th Av at 36th St, New York.
- Eng M**—Engineering Magazine. \$3; single numbers 25c. Engineering Magazine Co., 140 Nassau St, New York.
- Eng N**—Engineering News. \$5; single numbers 15c. Hill Pub. Co., 10th Av at 36th St, New York.
- Eng Rec**—Engineering Record. \$3; single numbers 10c. McGraw Pub. Co., 239 W 39th St, New York.
- Eng Soc W Pa**—Proceedings of the Engineers' Society of Western Pennsylvania. \$5; single numbers 50c. Engineers' Society of Western Pennsylvania, 2511 Oliver Bldg, Pittsburgh, Pa.
- Foundry**—Foundry. \$1; single numbers 15c. Penton Pub. Co., Penton Bldg, Cleveland, O.
- Gen Elec R**—General Electric Review. \$2; single numbers 20c. General Electric Co., Schenectady, N. Y.
- Good Roads n s**—Good Roads new series. \$2; single numbers 5c except first numbers of each month 10c. E. L. Powers Co., 150 Nassau St, New York.
- Heat & Ven**—Heating and Ventilating Magazine. \$1; single numbers 10c. Heating & Ventilating Magazine Co., 1123 Broadway, New York.
- Horseless Age**—Horseless Age. \$2; single numbers 10c. Horseless Age Co., 250 W 54th St, New York.
- Ill U Eng Exp Sta Bul**—Illinois University Engineering Experiment Station. Bulletin. Univ. of Ill., Urbana.
- Illum Eng**—Illuminating Engineer. 10s 6d; single numbers 1s. Illuminating Engineering Pub. Co., 32 Victoria St, London, S. W.
- Illum Eng Soc**—Transactions of the Illuminating Engineering Society. \$5; single numbers 75c. Illuminating Engineering Soc., 29 W 39th St, New York.
- Ind Eng**—Industrial Engineering and Engineering Digest. \$2; single numbers 20c. Technical Literature Co., 120 W 32d St, New York.
- Inland Ptr**—Inland Printer. \$3; single numbers 30c. Inland Printer Co., 632 Sherman St, Chicago.
- Int Marine Eng**—International Marine Engineering. \$2. Aldrich Pub. Co., 17 Battery Place, New York.
- Iron Age**—Iron Age. \$5; single numbers 20c. David Williams Co., 239 W 39th St, New York.
- Iron Tr R**—Iron Trade Review. \$4; single numbers 15c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- J Account**—Journal of Accountancy. \$3; single numbers 30c. Ronald Press Co., 20 Vesey St, New York.
- J Fr Inst**—Journal of the Franklin Institute. \$5; single numbers 50c. Franklin Institute, Philadelphia.
- J Ind & Eng Chem**—Journal of Industrial and Engineering Chemistry. \$6. American Chemical Society, Easton, Pa.
- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach**—Machinery. Engineering edition \$2; coated pa. \$2.50; single numbers 20c. Industrial Press, 140 Lafayette St, New York.
- Met & Chem Eng**—Metallurgical and Chemical Engineering. \$2; single numbers 25c. McGraw Pub. Co., 239 W 39th St, New York.
- Metal Ind n s**—Metal Industry new series. \$1; single numbers 10c. Metal Industry, 99 John St, New York.

## LIST OF PERIODICALS INDEXED

**Metal Work**—Metal Worker, Plumber & Steam Fitter. \$2; single numbers 10c. David Williams Co., 239 W 39th St, New York.

**Munic Eng**—Municipal Engineering. \$2; single numbers 25c. Engineering Pub. Co., Indianapolis, Ind.

**Munic J**—Municipal Journal. \$3; single numbers 10c; special numbers 25c. Municipal Journal and Engineer, Inc., 50 Union Square, New York.

**Power**—Power. \$2; single numbers 5c. Hill Pub. Co., 10th Av at 36th St, New York.

**Ry Age**—Railway Age Gazette. \$5; single numbers 15c. Simmons-Boardman Pub. Co., Woolworth Bldg, New York.

**Ry Age (Mech ed)**—Railway Age Gazette, mechanical edition including the American Engineer. \$2; single numbers 20c. Simmons-Boardman Pub. Co., Woolworth Bldg, New York.

**Ry R**—Railway Review. \$4; single numbers 15c. Railway Review, 1407 Ellsworth Bldg, Chicago; 30 Church St, New York.

Formerly Railway and Engineering Review.

**Sch Mines Q**—School of Mines Quarterly. \$2; single numbers 50c. School of Mines Quarterly, Columbia University, New York.

**Sci Am**—Scientific American. \$3; single numbers 10c. Munn & Co., 361 Broadway, New York.

**Sci Am S**—Scientific American Supplement. \$5; single numbers 10c. Munn & Co., 361 Broadway, New York.

**Sibley J**—Sibley Journal of Engineering. \$2; single numbers 25c. Sibley College, Cornell Univ., Ithaca, N. Y.

**Stevens Ind**—Stevens Indicator. \$1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N. J.

**Textile World**—Textile World Record. \$2. Lord & Nagle Co., 144 Congress St, Boston.

**U S Agric Bul**—United States. Dept. of Agriculture. Bulletin. Distributed free of charge. U. S. Dept. of Agriculture, Division of Publications, Washington, D. C.

Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed.

**U S Bur For & Dom Com**—United States. Bureau of Foreign and Domestic Commerce. Special agents series. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.

**U S Bur Mines Bul**—United States. Bureau of Mines. Bulletin. Distributed free of charge. U. S. Bureau of Mines, Washington, D. C.

**U S Bur Mines Circ**—United States. Bureau of Mines. Miners' circular. U. S. Bureau of Mines, Washington, D. C.

**U S Bur Mines Tech Pa**—United States. Bureau of Mines. Technical paper. U. S. Bureau of Mines, Washington, D. C.

**U S Bur Stand Bul**—United States. Bureau of Standards. Bulletin. Gratis to educational and scientific institutions and to government depositories. U. S. Bureau of Standards, Washington, D. C.

Sold to individuals by the Superintendent of Documents. \$1; single numbers 25c.

**U S Bur Stand Circ**—United States. Bureau of Standards. Circular. U. S. Bureau of Standards, Washington, D. C.

**U S Bur Stand Tech Pa**—United States. Bureau of Standards. Technologic papers. U. S. Bureau of Standards, Washington, D. C.

**U S Sp Cons Rep**—United States. Special consular reports. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.

**W Soc E J**—Journal of the Western Society of Engineers. \$3; single numbers 50c. Western Society of Engineers, 1735 Monadnock Blk, Chicago.

**Wis U Bul Eng S**—Bulletin of the University of Wisconsin, Engineering Series. Univ. of Wis., Madison.

# Industrial Arts Index

## A Cumulative Index to Engineering and Trade Periodicals

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- Abderhalden, Emil, 1877-**  
Abderhalden reaction for the diagnosis of disease. Sci Am S 78:119 Ag 22 '14
- Abletic acid**  
Abletic acid and some of its salts. E. O. Ellingson. Am Chem Soc J 36:325-35 F '14
- Ablene, Kansas**  
Politics and government  
Engineer-manager plan in small Kansas city: abstracts. K. Riddle. Eng Rec 69:130-1 Ja 31 '14; Eng & Contr 41:97-8 Ja 21 '14; Eng N 71:325-6 F 5 '14  
Water supply  
Records of water-works mains and services at Ablene. K. Riddle. Eng N 71:1007 My 7 '14
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- Abrasive wheels.** See Grinding wheels
- Abrasives**  
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- Absorbent cotton.** See Cotton, Absorbent
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Experimental evidence of molecular structure. diag Sci Am S 77:299 My 9 '14  
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- Accelerometer**  
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Legal aspects of boiler explosions. A. L. H. Street. Power 39:327-8 Mr 10 '14  
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Business side of the safety first principle. D. S. Beyer. Il Sci Am 110:115-6 F 7 '14  
Fighting the death list. J. E. Schipper. Il Automobile 30:1047-52 My 21 '14  
Industrial accident analyses in Massachusetts. Eng Rec 69:239 F 28 '14
- Quarry accidents in the United States during the calendar year 1911. A. H. Fay. U S Bur Mines Tech Pa 46:1-31 '13  
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Stopping accidents by stopping alcohol. Ind Eng 14:359-60 S '14  
See also Accident law; Boiler explosions; Coal mines and mining—Accidents and explosions; Mine accidents; Mining engineering—Safety measures; Railroads—Accidents; Safety devices; Workmen's compensation
- Accidents at sea.** See Collisions at sea; Safety at sea; Shipwrecks
- Accountants**  
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- Accounting**  
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Accounting system for small central stations. H. G. D. Nutting. Elec R & W Elec'n 64:221-6 Ja 31 '14  
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Business methods in a combination shop. Il Metal Work 82:208-10+ Ag 14 '14  
Deferred debits and credits. J Account 17:384-95 My '14  
Engineering and accounting—their relation with special reference to public utilities. J. B. Scholefield. Assn Eng Soc J 52:153-64 Mr '14; Discussion. L. H. Allen. 52:281-8 My '14  
Interrelation of financial and operating data. W. A. Staub. J Account 17:1-12 Ja '14  
N. E. L. A. reports and papers on accounting methods. Elec W 63:1322-7 Je 6 '14



**Accounting—Continued.**

- Organization of the accounting department of a gas company; with discussion. R. C. James. *Am Gas Light J* 101:1-3 J1 6 '14
- Real estate accounting; and May premiums from sales of capital stock be used for dividends? H. I. Thomas. *J Account* 18: 357-66 N '14
- Simplified accounting. J. C. Morrison. *Inland Ptr* 53:433-4 Je '14
- Statement of accounts of holding companies. H. C. Freeman. *J Account* 18:157-80 S '14
- Sugar mills and their accounts. H. Dasplit. *J Account* 18:109-13 Ag '14
- Taxes as deferred debits. O. B. Thayer. *J Account* 18:114-7 Ag '14
- Treatment of the returnable package in accounts. G. V. W. Lyman. *J Account* 17:427-30 Je '14
- Treatment of the returnable package in accounts. W. Jensen. *J Account* 18:118-9 Ag '14
- Value of use of color in making and verifying accounting records. E. H. Cooper. *J Account* 17:290-3 Ap '14
- See also Accountants; Auditing; Banks and banking—Accounting; Bookkeeping; Building—Accounting; Card system in business; Cost accounting; Depreciation; Factories—Accounting; Government accounting; Income; Interest; Metallurgical plants—Accounting; Mine accounting; Municipal accounting; Partnership; Plumbing trade—Accounting; Public service corporations—Accounting; Railroads—Accounting; Sinking funds; Waterworks—Accounting
- Study and teaching**
- Accountancy laboratory. R. H. Montgomery. *J Account* 17:405-11 Je '14
- Business training for the engineer. A. C. Humphreys. *Stevens Ind* 31:241-54 J1 '14; Abstract. *Elec Ry J* 43:366-7 F '14; Abstract. *Am Soc M E J* 36:199-201 My '14
- Scientific and educational problems of the accountancy profession. J. C. Duncan. *J Account* 18:260-75 O '14
- Students' department, edited by S. Walton. See monthly numbers of *Journal of accountancy*
- See also Accountants, Public—Examinations
- Accounting, Municipal.** See *Municipal accounting*
- Acetanilide**
- Estimation of acetanilide and phenacetin in admixture. W. O. Emery. *J Ind & Eng Chem* 6:665-9 Ag '14
- Acetic anhydride**
- Action of acetic anhydride on some benzyldene antranilic acids. J. B. Ekeley and L. C. Slater. *Am Chem Soc J* 36:603-6 Mr '14
- Acetone**
- Equilibria in the systems, water, acetone and inorganic salts. G. B. Frankforter and L. Cohen. *Am Chem Soc J* 36:1103-34 Je '14
- Acetyl**
- Determination of the acetyl number of oils, fats, etc. E. B. Holland. *J Ind & Eng Chem* 6:482-6 Je '14
- Acetylacetone-urea**
- Constitution of acetylacetone-urea. W. J. Hale. *Am Chem Soc J* 36:104-15 Ja '14
- Acetylene**
- Physical properties of ethane, ethylene and acetylene. O. Maass and D. McIntosh. *Il Am Chem Soc J* 36:737-42 Ap '14
- Physiological characteristics of acetylene, with respect to its use in mining. E. E. Smith. *Sch Mines Q* 35:143-53 Ja '14
- Soldering torch employing compressed acetylene. *Il Elec R & W Elec'n* 65:1017 N 21 '14
- Acetylene burners**
- New standard light source. L. A. Jones. *Am Gas Light J* 101:251-3 O 19 '14
- Acetylene for lighthouses, buoys, etc.**
- Navigating lights for the Panama canal. *Il Sci Am* 110:200-1+ Mr 7 '14

**Acetylene generators**

- New acetylene generator. *Il diag Engineer* 118:469-70 N 13 '14

**Acid tanks, vats, etc.**

- Leaching-plant construction. S. Croasdale. *Am Inst Min E Bul* 92:1893-6, 1913-5 Ag '14; Same. *Eng & Min J* 98:961-3 N 28 '14
- Mastic lining for acid tanks. *Eng Rec* 69:399 Ap 4 '14

**Acid waste**

- Design of chemical-resisting wastes. *diags Metal Work* 82:428-9 S 25 '14
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Pacific Coast meeting. *Elec W* 64:606-8 S 26 '14

Papers at the Washington meeting, April 24-25. *Elec W* 63:1045-7 My 9 '14

Papers dealing with generation, transmission and distribution of electrical energy, protective apparatus, etc. *Elec W* 63:534-42 Mr 7 '14

Pittsburgh meeting, April 9 and 10. *Elec W* 63:863 Ap 18 '14

Pittsburgh meeting, April 9 and 10: abstracts of papers. *Elec R & W Elec'n* 64:782-5 Ap 18 '14

Pittsfield meeting, May 28 and 29: abstracts of papers. *Elec W* 63:1291-4 Je 6 '14

2d annual midwinter convention, New York, Feb., 1914. *Elec R & W Elec'n* 64:480-6 Mr 7 '14

2d annual midwinter convention, New York, Feb., 1914. *Elec W* 63:469-72 F 28 '14

2d annual midwinter convention, New York, Feb. 25-27, 1914. *Elec Ry J* 43:447-54, 520-3 F 28-Mr 7 '14

2d annual mid-year convention, New York, February 25-27. *Eng N* 71:539-40 Mr 5 '14

Standardization rules. *Am Inst E E Pro* 33:1217-99 Ag '14

Telephone and telegraph meeting, New York, March 13: papers. *Elec R & W Elec'n* 64:587-9 Mr 21 '14

Telephone-exchange traffic, the telegraph and telephone in railroad service, and the Goldschmidt system of radio-telegraphy: papers at March meeting, 1914. *Elec W* 63:649-51 Mr 21 '14

31st annual convention, Detroit, June 22-26. *Elec R & W Elec'n* 65:26-34 Ji 4 '14

31st annual convention, Detroit, June 22-26. *Eng N* 72:46-9 Ji 2 '14

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31st annual convention, Detroit, Mich., June 22-26. *Elec W* 63:1474-6; 64:13-20 Je 27, Ji 4 '14

Use of electricity in mining operations: abstracts of papers. *Elec W* 63:927-9 Ap 25 '14

**American institute of metals**

Chicago convention, Sept. 8-11. *Met & Chem Eng* 12:641-9 O '14

8th annual meeting. *Foundry* 43:409-12 O '14

8th annual meeting. *Iron Age* 94:688-90 S 17 '14

Report of the foundrymen's associations assembled in convention at Chicago. *Metal Ind n s* 12:367-71 S '14

Technical sessions. *Iron Tr R* 55:546-8 S 17 '14

**American institute of mining engineers**

Annual meeting, New York, Feb. 16, 1914. *Eng & Min J* 97:437-41 F 21 '14

Annual meeting, New York city, February 16 to 19. *Met & Chem Eng* 12:189-94 Mr '14

Banquet and closing sessions of annual meeting, New York, Feb., 1914. *Eng & Min J* 97:480-1 F 28 '14

Contributions on iron and steel. *Iron Age* 93:562-4 F 26 '14

Electrical papers presented before annual convention, Salt Lake City, Aug. 10-14. *Elec R & W Elec'n* 65:384-5 Ag 22 '14

Iron and steel subjects discussed at the meeting in Pittsburgh, October 8-10. *Iron Age* 94:892-6 O 15 '14

Papers read under auspices of iron and steel committee. *Iron Tr R* 55:729-31 O 15 '14

Pittsburg meeting, Oct. 8-10. *Eng & Min J* 98:707-9 O 17 '14

Summaries of papers read at meeting, New York, Feb. 16-18. *Iron Tr R* 54:435-7 F 26 '14

Utah meeting. *Met & Chem Eng* 12:589-94 S '14

**American iron and steel institute**

6th general meeting, New York city, May 22. *Iron Age* 93:1332-6 My 28 '14

6th general meeting, New York city, May 22. *Iron Tr R* 54:945-8 My 28 '14

7th general meeting at Birmingham. II map *Iron Age* 94:1076-7+ N 5 '14

**American iron, steel and heavy hardware association**

Banquet at the close of the convention. *Iron Tr R* 54:1017-8 Je 4 '14

5th annual convention, Cleveland, May 26 to 28. *Iron Age* 93:1396-8 Je 4 '14

**American mine safety association**

3d annual business meeting in New York city, Sept. 7-9. *Colliery* 35:191-4 N '14

**American mining congress**

Financial statement. *Eng & Min J* 98:129-30 Ji 18 '14

**American museum of natural history**

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**American petroleum society**

Constitution. *U S Bur Mines Tech Pa* 72:16-9 '14

**American pig iron association**

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Work of the association; 1st general meeting, New York, April 23. *Iron Age* 93:1070-2 Ap 30 '14

**American railway association**

Fall session, Chicago, Nov. 18. *Ry Age* 57:954-5 N 20 '14

Fall session, Chicago, Nov. 18. *Ry R* 55:634-6 N 21 '14

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Spring meeting. *Ry R* 54:788 My 30 '14

Spring session. *Elec Ry J* 43:1150 My 23 '14

Spring session. *Ry Age* 56:1146-7 My 22 '14

**American railway bridge and building association**

24th annual convention, Los Angeles, Oct. 20-22. *Ry Age* 57:759-66 O 23 '14

**American railway engineering association**

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15th annual meeting, Chicago, March, 1914. *Eng N* 71:696-9 Mr 26 '14

15th annual meeting, Chicago, March, 1914. *Ry R* 54:450-65 Mr 21 '14

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President's address. E. F. Wendt. *Ry R* 54:475-9 Mr 21 '14

Recommendations adopted at annual convention. *Eng Rec* 69:359 Mr 28 '14

Summary of the year's investigations and conclusions of the various committees. *Eng Rec* 69:337-9 Mr 21 '14

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 47th annual convention at Atlantic City, June 15-17. Ry R 54:915-27 Je 20 '14  
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 10th annual convention, Philadelphia, Dec. 9-12, 1913. Good Roads n s 7:3-59, 91-126 Ja 3, F 7 '14
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 Abstracts of some of the papers. Eng Rec 70: 533-6, 568-70 N 14-21 '14  
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 Road congress ends big session. J. C. Burton. Automobile 31:951-2 N 19 '14
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 Sheet metal centre a model municipality. Vandergrift, Pa. II Metal Work 81:896-900 Je 26 '14
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- 1914 car. diags Automobile 30:1-9 Ja 1 '14
- Novel uses for automobiles. II Sci Am 111:412 N 14 '14
- Oakland chassis for 1915. II diag Automobile. 31:216-9 JI 30 '14
- Oldsmobile continues four and six. II Automobile 31:507-9 S 10 '14
- Oldsmobile four: model 42. II diag Horseless Age 33:803-4 My 20 '14
- Oldsmobile—light four-cylinder. II diag Automobile 30:835-7 Ap 16 '14
- Overland car for \$850. II Horseless Age 34:459-60 S 23 '14
- Overland model 80 with two unit electric starter. II Horseless Age 34:287-8 Ag 19 '14
- Overland—new streamline has left drive. II diag Automobile 31:316-9 Ag 13 '14
- Overland 81, fully equipped, \$850. II diag Automobile 31:531-3 S 17 '14
- Overland seven-passenger six \$1,475. II Automobile 31:837-9 N 5 '14
- Overland six-cylinder. II Horseless Age 34:722-3 N 11 '14
- Packard continues two sixes. II Automobile 31:114-5 JI 16 '14
- Packard models show improvement in lamp equipment and lubricating system. II Horseless Age 34:136-7 JI 22 '14
- Partin-Palmer runabout for \$495. II Automobile 31:46 JI 2 '14
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- Paterson adds \$1,495 six—smaller model cut to \$1,095. II Automobile 31:944-6 N 19 '14
- Pathfinder sixes for 1915. II diag Automobile 30:1224-5 Je 11 '14
- Peerless co. announces its new all purpose line. II Horseless Age 34:494-5 S 30 '14
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- Pierce-Arrow cars with lower bodies. II Horseless Age 33:944-5 Je 17 '14
- Pierce offers 54 body types. II diag Automobile 31:300-3+ Ag 13 '14
- Pilgrim light car to sell for \$650. II Automobile 31:458-9 S 3 '14
- Pilot 55 horsepower six for \$1,885. II diag Automobile 31:772-4 O 22 '14
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- Racing car development has been slow. R. F. Coughlan. Automobile 30:1210-1 Je 11 '14
- Regal concentrates on one model. II diag Automobile 30:1277-9 Je 18 '14
- Remington light car. II Horseless Age 34:456 S 23 '14
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- Singer six. II diag Horseless Age 34:522-3 O 7 '14
- Singer six has unusual manifolds. II diag Automobile 31:723-5+ O 15 '14
- Speedwell rotary six. II Horseless Age 33:484-6 Mr 25 '14
- Stearns-Knight four for \$1,750. II Automobile 31:638-41 O 1 '14
- Stearns markets new light four. II Horseless Age 34:457-8 S 23 '14

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- Studebaker prices reduced. *Il Horseless Age* 34:217-8 Ag 5 '14
- Studebakers—15 per cent more power. *Il Automobile* 31:268-71 Ag 6 '14
- Stutz—small four runabout. *Il Automobile* 31:633-5 O 1 '14
- Valves-in-head predominate at speedway. *Il Automobile* 30:1106-9+ My 28 '14
- Velle six \$1,595—two other models. *Il Automobile* 31:590-1+ S 24 '14
- Vim delivery (\$635) has standard parts. *Il Automobile* 31:411 Ag 27 '14
- Wahl—a new light car from Detroit. *Il Horseless Age* 34:176-7 J1 29 '14
- Wahl, 1915—complete equipment features. *Il Automobile* 31:137 J1 16 '14
- White—new body styles; chassis carries many improvements. *Il diags Automobile* 31:815-9 O 29 '14
- White 1915 line—three models. *Il Horseless Age* 34:656-6 O 28 '14
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- Winton minimizes vibration. *Il Automobile* 31:37-9 J1 2 '14

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- Hess-Bright ball bearing plant. *Il diag plan Horseless Age* 33:834-7 My 27 '14
- Hess-Bright co. wins on appeal. *Horseless Age* 34:598-602 O 14 '14
- Hess-Bright wins bearing suit appeal. *diags Automobile* 31:734-5 O 15 '14
- Making and testing ball bearings: new plant of Hess-Bright mfg. co. *Il plan Automobile* 30:910-2 Ap 30 '14
- Recent experiences with ball bearings. *Il Horseless Age* 33:772-5 My 13 '14
- Semi-floating axle easy on bearings. A. M. Laycock. *diags Automobile* 31:354-7 Ag 20 '14

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- Building bodies with a trowel. *Il Automobile* 30:1034-5 My 21 '14
- Cabriolet design for Cadillac chassis. *diags Automobile* 30:544-5 Mr 5 '14
- Car bodies of 1914. *Il Automobile* 30:13-32 Ja 1 '14
- Cast aluminum shells for Pierce-Arrow bodies. *Il Automobile* 31:540 S 17 '14
- Convertible body design for runabouts. G. J. Mercer. *diags Automobile* 31:718-9 O 15 '14
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- Designing a body for a cyclecar. *Il diags Automobile* 30:1012-3 My 14 '14
- Moline-Knight closed cars. *Il Horseless Age* 34:786 N 25 '14
- New type of streamline body. J. F. Brasor. *diag Automobile* 30:366-7 F 5 '14
- Refinements in French body design. *Il Automobile* 30:908-9 Ap 30 '14
- Streamline bodies at importers' salon. G. J. Mercer. *diags Automobile* 30:114-7 Ja 8 '14
- Two-door Sedan with separate front seats. G. J. Mercer. *diags Automobile* 31:978-9 N 26 '14
- Wide doors in new convertible bodies. *Il Automobile* 31:313 Ag 13 '14
- Wind resistance: road tests demonstrate that surface contour of car has bearing on fuel consumption and speed. R. W. A. Brewer. *Automobile* 30:581-4 Mr 12 '14

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**Chassis**

- F. R. P. 100-horsepower chassis, \$5,000. *Il diags Automobile* 31:903-5 N 12 '14
- Passenger car chassis for 1914, including horsepower and mechanical details: specifications tabulated. *Automobile* 30:40-7 Ja 1 '14
- Scripps-Booth light car. *Il Horseless Age* 34:725 N 11 '14
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- Care vs. speed in washing cars. M. C. Hillick. *Automobile* 30:918-9 Ap 30 '14
- Cleaning of motors by oxygen in France. *Automobile* 30:1074 My 21 '14
- Hints on keeping cyclecars clean. *Il Automobile* 30:1066-7 My 21 '14
- Protecting the investment in car finish. M. C. Hillick. *Automobile* 31:712-3 O 15 '14

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- Clutches—body—special applications. C. M. Linley. *Il Horseless Age* 34:74-6 J1 8 '14
- Conservative cone clutch construction noted for accessibility. *Automobile* 30:409 F 12 '14
- Dog clutch for electric lighting systems. *Il Horseless Age* 33:673-4 Ap 29 '14
- Elements in gearing and clutches serving to avoid jerky starts and needless wear of tires. *Automobile* 31:450-2 S 3 '14

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- Discussion on car control. H. L. Collins. *Automobile* 30:646 Mr 19 '14
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- Automobile drafting room. E. W. Weaver. *Il diags Horseless Age* 34:222-4, 256-8, 297-8, 368-70 Ag 5-19, S 2 '14
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- Details in car design can be improved. R. F. Chapman. *Automobile* 30:822-3 Ap 16 '14
- Economics of design. A. L. Clayden. *Horseless Age* 33:345-8 F 25 '14
- Ideal American six. *Automobile* 31:541-5 S 17 '14
- Inaccessibility due to low production cost. *Automobile* 30:774 Ap 9 '14
- Light car solves the economy problem. W. B. Stout. *Automobile* 31:404-5 Ag 27 '14
- Methods of the French designer. *Automobile* 30:590-1 Mr 12 '14
- N. Y. S. A. E. argues on ideal car. *diag Automobile* 30:1231-2 Je 11 '14
- Participants in Grand Prix embody latest European engineering developments. *Il diags Automobile* 31:62-5, 103 J1 9 '14
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- Varied design in Isle of Man racers. *Automobile* 30:1327 Je 25 '14

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- Action of the Muehl differential. *Horseless Age* 34:18 J1 1 '14

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Where power is lost in automobiles. Automobile 31:844 N 5 '14

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Bosch now produces Rushmore systems. ii Automobile 31:112-3 Ji 16 '14

Bosch starting and lighting apparatus. ii Horseless Age 34:99-101 Ji 15 '14

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Manufacturing electric starting outfits. ii Iron Age 94:875-6 O 15 '14

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Trend of ignition practice. H. E. Dey. Horseless Age 33:130-1 Ja 21 '14

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Variety of storage battery mountings. L. V. Spencer. ii diags Automobile 30:376-9 F 5 '14

Where battery lighting is advantageous. A. L. Clough. Horseless Age 34:403 S 9 '14

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England opens museum for historic cars. ii Automobile 30:715-9 Ap 2 '14

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Building new Pennsylvania bridge over the Maumee river at Toledo in record time. R. C. Miller. *Il* *diag* Eng Rec 69:492-4, 592-4, 643-5 My 2, 23, Je 6 '14

Cellular pier undamaged by enormous internal pressure. N. S. Sprague. *diag* Eng Rec 70:198 Ag 15 '14

Concrete protection pier for a railway undercrossing. *Il* *diag* Eng N 71:1172-3 My 28 '14

Construction features of the Quebec bridge substructure. H. P. Borden. Eng & Contr 42:104-7 J1 29 '14

Construction of Gunpowder river bridge: reinforced concrete flat slab spans built on piers with foundations in shallow water and deep mud. *Il* *diags* Eng Rec 69:511-4 My 2 '14

Crescoted piling in Galveston bay bridge. F. B. Ridgway. *Il* Eng N 71:1176-82 My 28 '14

Design features of the reinforced concrete viaduct on Hopple St., Cincinnati, Ohio. *diags* plans Eng & Contr 41:306-9 Mr 11 '14

Features of the piers for the North side Point bridge, Pittsburgh, Pa. *diags* Eng & Contr 41:358-60, 684-5 Mr 25, Je 17 '14

Load-tests on concrete piles, North side Point bridge approach, Pittsburgh. *Il* *diag* Eng N 72:310-1 Ag 6 '14

Main pedestals for new Quebec bridge: four 400-ton built-up, riveted and cast-steel members supporting cantilever and anchor arms on the main piers. *Il* *diags* Eng Rec 69:667-8 Je 13 '14

North side Point bridge, Pittsburgh: two 531-foot spans with reinforced-concrete pier caissons. *Il* *diags* Eng Rec 70:72-4 J1 18 '14

Pneumatic method of building bridge substructures. J. W. Doty. *plans* Ry R 55:149-53 Ag 8 '14

Reinforced-concrete columns for bridge over St. Croix river at Hudson, Wisconsin. *Il* *diags* Eng Rec 69:192-3 F 14 '14

Repairing a settling bridge pier. *diag* Eng N 71:1197 My 28 '14

Special concrete piling for a viaduct foundation. J. Stewart. *Il* Eng N 71:1412-4 Je 25 '14

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Underpinning a settling bridge pier. P. Jones. *Il* *diags* Eng N 71:788-9 Ap 9 '14

*See also* Caissons; Cofferdams; Concrete piling

**Law**

Private bridges over public street: regulations in several cities. A. L. Bostwick. *Munic* J 36:816-8 Je 4 '14

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Comment on J. E. Greiner's paper, Rolling loads on bridges. E: Godfrey. Eng & Contr 41:645-7 Je 3 '14

Limits of bridge and track loading. *Ry* Age 56:1080 My 15 '14

Motor-truck loading on highway bridges. L. R. Manville and R. W. Gastmeyer. Eng N 72:492-4 S 3 '14

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Converting a pin-connected bridge into a riveted structure. *diags* Eng N 72:738-40 O 8 '14

Doubling the load capacity of an old iron railroad viaduct across Manistee river. W. T. Curtis. *Il* *diags* Ry R 54:170-6 Ja 31 '14

Interchanging two bridge spans, Wabash R. bridge at Hannibal, Mo. F. W. Curtis. *Il* Eng N 71:439-42 F 26 '14

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Rebuilding a bridge 500 years old. Eng Rec 70:271 S 5 '14

Rebuilding ice-wrecked bridge near Pierreville, Quebec. *Il* Eng Rec 70:305 S 12 '14

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- Re-erecting the St. Francois river bridge, Quebec. il plans Ry Age 56:392-5 Ap 17 '14
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- Strengthening a truss bridge. W: H. Warnecke. il diag Ry Age 57:355-7 Ag 21 '14

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- Bridge repair derrick. diags Eng N 72:200-1 Jl 23 '14
- Putting 13-in. pins in place of 10-in. pins, Williamsburg bridge. O. E. Hovey. il diags Eng N 72:190-3 Jl 23 '14
- Reinforcing the Williamsburg bridge under traffic. diags Eng N 71:1082-3 My 14 '14
- Reinforcing the Winona bridge. C. & N. W. Ry. diags Eng N 72:832-3 O 22 '14
- Repair of fire-damaged floor system at Kansas City. C. W. Yelm. il Eng Rec 69:685 Je 13 '14
- Repairing a settling bridge pier. diag Eng N 71:1197 My 28 '14
- Repairing a teredo-eaten bridge pier foundation. Eng Rec 69:317 Mr 14 '14
- Repairing fire damage on the Harriman bridge at Portland, Ore. il Eng Rec 69:137-8 Ja 31 '14
- Replacing a broken bridge panel post under traffic at Riverton, Ill. il Eng Rec 69:697-8 Je 20 '14
- Replacing pins in the Williamsburg bridge: an exceptional boring operation. il diags Mach 20:865-7 Je '14
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- Forms and specifications for bridge work issued by the Illinois state highway department. Good Roads n s 8:98 S 5 '14
- Inadequate specifications. Eng Rec 69:685-6 Je 13 '14
- Specification for unit stress in end posts of railroad bridges. A. Smith. Eng & Contr 41:198-9 F 11 '14
- Specifications for reinforced concrete highway bridges and culverts. Eng & Contr 41:309-11 Mr 11 '14

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- Hell Gate arch skewbacks. diags Eng Rec 70:216 Ag 22 '14
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- Colorado street bridge at Pasadena, California. II Munic Eng 47:378-80 N '14
- Concrete arch bridge at the San Diego exposition. II Concrete Cem 4:10-2 Ja '14
- Concrete arch bridge with ornamental tile panels, Philadelphia. J. Jones. II Eng N 72:567-8 S 17 '14
- Concrete bridge construction by the St. Louis park department. II Concrete Cem 4:127 Mr '14
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- Concrete structures on the Lake Erie & Eastern R. R. II diags map Eng N 72:320-4 Ag 6 '14
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- Construction of Milwaukee avenue viaduct, Chicago. J. H. Prior. II diags plans Ry Age 56:947-51 Ap 24 '14; Same. Ry R 54:789-92, 937-41 My 30, Je 27 '14; Same cond. Eng N 71:1183-7 My 28 '14
- Construction-plant layout for a 1200-ft. concrete arch bridge. E. P. Knollman. plan Eng N 72:308-9 Ag 6 '14
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- Design and cost of ornamental arch bridges in Los Angeles. R. W. Stewart. II Eng Rec 69:180-2 F 14 '14
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- Features of the Williams reinforced concrete highway bridge over the Scioto river, Columbus, Ohio. diags plan Eng & Contr 41:643-5 Je 3 '14
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- Park bridge of reinforced concrete. II diag Eng N 72:767 O 15 '14
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- Recommendations for reinforced-concrete highway bridges and culverts. Eng N 71:481-3 F 26 '14
- Reinforced concrete bridges. Ry Age 57:761 O 23 '14
- Reinforced-concrete girder and slab bridge with precast members near Easton, Md. II diags Eng N 71:296-8 F 5 '14
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- Central viaduct in Cleveland collapses. R. Hoffmann. II Eng Rec 69:sup 355 Je 6 '14
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- Car heating**  
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- Car painting**  
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*See* Car trucks

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- Eight-wheel steel caboose for the Pennsylvania. *Il* *diags* plan Ry Age 57:691-4 O 16 '14; Same. Ry R 55:405-8 O 3 '14; Same. Ry Age (Mech ed) 88:577-81 N '14; Same cond. Eng M 48:436-8 D '14

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- Scoop car for handling railway slides. *Il* *diag* Eng N 72:116-7 J1 16 '14

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**Cars, Dynamometer.** *See* Dynamometer cars**Cars, Freight.** *See* Freight cars**Cars (line)**

- Derrick line car with motored tower, push-button signals and breaker lift cut-out. *Il* Elec Ry J 43:677-8 Mr 21 '14

Home-made crane motor work car for Utica lines. J. R. Ayers. *Il* Elec Ry J 43:1044 My 9 '14

Motor cars for use by telegraph and telephone line men. F. F. Riefel. *Il* Ry R 54:643-5 Ap 25 '14

Oklahoma line car with platform having side adjustments. *Il* Elec Ry J 43:372 F 14 '14

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- All-steel cars for the Michigan railway. *Il* plans Elec Ry J 43:1087-90 My 16 '14
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**Gas meters**

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